DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF SOLID AND HAZARDOUS WASTE

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Dennis R. Downs
Director

288 North 1460 West
P.O. Box 144880
Salt Lake City, Utah 84114-4880
(801) 538-6170
(801) 538-6715 Fax
(801) 536-4414 T.D.D.
www.deq.state.ut.us Web

June 16, 2000

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Col. Bruce E. Pate
Commander
Deseret Chemical Depot
ATTN: AMSSB-ODC-RME
PO Box 250
Stockton, Utah 84071-0250

and

Mr. David Jackson
PMCD TOCDF
Project Manager
11620 Stark Road
Tooele, Utah 84074-5000

and

Mr. Michael J. Rowe
EG&G Defense Materials, Inc.
General Manager TOCDF
11600 Stark Road
Tooele, Utah 84074-5000

RE: May 8 and 9 Stack Release of Chemical Agent
Deseret Chemical Depot - TOCDF
EPA ID No. UT5210090002

Dear Col. Pate, Mr. Jackson and Mr. Rowe:

The Utah Division of Solid and Hazardous Waste (DSHW) has completed its investigation into the release of chemical agent from the TOCDF which occurred on May 8 and 9, 2000. Attached is a copy of the DSHW Investigation Report. The following are the conclusions reached in this investigation.

On the afternoon of May 8, 2000 the TOCDF had ceased the processing of chemical agent filled rockets because of a jam in the feed chute to the Deactivation Furnace (DFS) from Explosives Containment Room (ECR) B. Operators began the procedures to make an entry and clear the jam. This effort was delayed because the procedures required to make the entry could not be completed before shift change.

The night shift performed the operation of clearing the jam from the chute. During the process of clearing the jam large amounts of water were used which caused the pressures and temperatures in the DFS to fluctuate. The DFS operator struggled to stabilize the incinerator and eventually an upset condition caused the shutdown of all burners in the DFS. While attempting to re-light burners and bring the DFS temperatures back to normal, agent alarms occurred in the Common Stack and the DFS Duct. This was at approximately 11:26 PM. At this time the flow of air through the DFS was decreased (bottled up) to minimize the loss of heat while operators attempted to determine the cause of the alarms. After the alarms cleared, operators again attempted to re-light the burners and another set of alarms occurred. This was at approximately 12:28 AM. At this time operators once again "bottled up" the incinerator. The final "all clear" from the agent alarms, indicating that agent was no longer present, was given at approximately 1:07 AM. The highest agent reading during the entire event was 3.63 Allowable Stack Concentration (ASC).

Air dispersion modeling performed by the Deseret Chemical Depot (DCD) Emergency Operations Center (EOC) showed that agent could only migrate approximately eight to 10 feet from the Common Stack. Independent calculations performed to determine the amount of agent that could have been released showed that the amount ranged between 18 and 36 milligrams. Analysis of perimeter monitoring stations revealed that no agent from the stack release migrated off-post.

A review of all monitoring data relevant to the agent release was performed by the DSHW and discussed with the Centers for Disease Control. The DSHW has concluded that there was no health threat to workers or the off-post community.

The following is a list of actions that must be performed prior to the Executive Secretary agreeing to allow start-up of the facility, to minimize the potential for reoccurrence of this type of event and to eliminate data gaps discovered during the investigation.

1) A design review of the DFS feed chutes needs to be performed to determine if there is a way to modify the chutes to prevent the problem of material becoming jammed in the chutes and minimize the lower tipping gate blockage problems.

2) The non-normal procedure for chute clean out needs to be reviewed to determine if changes can and should be made to this procedure that would minimize or prevent upset conditions of the DFS.

3) Procedures need to be modified so that shift changes and concerns about overtime do not delay entries to perform critical activities such as chute clean out operations.

4) Training facilities and time should be made available to provide operators with more training, especially in handling upset conditions.

5) Procedures and permit conditions should be modified so that DAAMS tubes monitoring the perimeter of facilities located at DCD are pulled and analyzed immediately upon confirmation of any release of agent into the atmosphere.

6) Procedures and permit conditions should be modified so that any time analysis of the "A" tube from a perimeter DAAMS station shows a possible detection of agent, regardless of the level, the "B" tube should be analyzed to assist in making determinations as to what the material is and what the source may be.

7) If the TOCDF intends to continue monitoring ECRs at the MPL level, the Agent Monitoring Plan needs to be updated to reflect this, and operators need to be aware that this level is many times higher than the IDLH or TWA. The control room displays should be altered to alert operations personnel to this fact and raise the awareness in the control room.

8) ECR maintenance procedures should be changed so that personnel performing maintenance check with operators and it is confirmed that the incinerator is operating normally prior to placing any maintenance waste on the upper feed gate.

9) Stack temperature instrument TIT-9913 and pressure instrument PIT-9913 should be recorded by PDARS separately from the signals used to calculate standard flow. This would provide continuous recording of stack temperature and pressure.

10) Contingency Procedure Agent Detected in the Stack, EG 040.A01, Revision 2 was not followed correctly. Personnel need to follow the contingency plan or the plan should be updated to show what is currently being followed at the facility.

The investigation Report and all supporting information can be found on the Chem Demil Homepage at http://www.deq.state.ut.us/eqshw/CDS/CurrentEventsCDS.htm. If you have any questions regarding this letter and the items listed above, please contact Marty Gray or Tom Ball at 538-6170.

Sincerely,

Dennis R. Downs, Executive Secretary
Utah Solid and Hazardous Waste Control Board

DRD/TIB/tb

c: Myron Bateman, R.S., M.P.A., Health Officer/Department Director, Tooele County Health Department
Michael Saupe, TOCDF
Carl Daly, USEPA, Region VIII
Utah Solid and Hazardous Waste Control Board
Dan Bauer, Chairman, Citizens Advisory Commission
Linda Anderson, Centers for Disease Control

F:\SHW\HWB\TBALL\WP\TOCDF\INSP\May8.Investigation Letter.wpd